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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/824,980	04/03/2001	Donald J. Williams	3174-000008	1370

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06/18/2002

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EXAMINER

DEPUMPO, DANIEL G

ART UNIT

PAPER NUMBER

3611

DATE MAILED: 06/18/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/824,980

Applicant(s)

Williams et al.

Examiner

Daniel G. DePumpo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Apr 3, 2001
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2-5 6) ☐ Other:

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1. The listing of references in the specification is not a proper information disclosure statement. Note, the document discussed at the bottom of page 2, and patent 5,877,568 discussed at page 4. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

Applicant is advised that the date of any re-submission of any missing element(s) will be the date of submission for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609 C(1).

It is noted that applicant has filed at least four information disclosure statements (IDS) listing an excessive number references. A review of these references shows that many of them do not seem to be pertinent to the claimed invention. For example, many of the references are directed to washing machines and control systems. In view of the extensive number of seemingly impertinent documents, it appears that these references may have been cited in error, and were possibly intended to be cited in a different application. Clarification of this issue is requested.

2. The incorporation of essential material in the specification by reference to a foreign application or patent, or to a publication is improper. See the top of page 3. Applicant is required to amend the disclosure to include the material incorporated by reference. The

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amendment must be accompanied by an affidavit or declaration executed by the applicant, or a practitioner representing the applicant, stating that the amendatory material consists of the same material incorporated by reference in the referencing application. See *In re Hawkins*, 486 F.2d 569, 179 USPQ 157 (CCPA 1973); *In re Hawkins*, 486 F.2d 579, 179 USPQ 163 (CCPA 1973); and *In re Hawkins*, 486 F.2d 577, 179 USPQ 167 (CCPA 1973).

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5, 8-13, 16-19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kliman et al. in view of Applicant's Admitted Prior Art (APA) and further in view of Nishiyama et al. '153.

Kliman discloses the use of a switched reluctance motor (col. 1, line 51 and col. 2, lines 19) in a power steering system (col. ²1, line 37). Regarding the insulation layer (claim 4), Official Notice is taken that the use of insulation between motor windings and a stator is common. The use of insulation would have been obvious to avoid shorting out the motor.

Kliman does not disclose the details of the steering system, including a steering wheel, worm gear and worm. However, at page 1 of applicant's disclosure (APA), it is admitted that these elements are typical in a steering system. It would have been obvious to use these elements

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in the steering system of Kliman, since Kliman is silent regarding the specific details of the steering system and since APA discloses these elements are typical in a steering system. Kliman also does not disclose the use of sensorless techniques to sense rotor position (claims 8 and 22), however, APA discloses (page 4, lines 6-17) that such techniques are known. It would have been obvious to use such techniques to “reduce manufacturing costs and misalignment problems” (APA, page 4, lines 6 and 7).

Kliman also does not teach a stator made of segment assemblies that include a stack of plates. However, a review of the prior art of record, for example Nishiyama et al., shows that this is common in the motor art. As shown in figs. 1 and 4 (of Nishiyama), the stator is made of segment assemblies that include a stack of plates. Also as shown in fig. 1, the stator assemblies include a radially outer rim section 6 and a tooth section 5 having projections extending from the radially inner end of tooth section. It would have been obvious to modify Kliman by making the stator of segment assemblies having the shape taught by Nishiyama so that the winding may be formed easily (col. 4, line 49). This would have also been obvious since this is extremely common in the motor art.

5. Claims 6, 14 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kliman, APA and Nishiyama et al. as applied to claims 1-5, 8-13, 16-19 and 22 above, and further in view of Trago et al.

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As set forth above, the combination teaches substantially all that is claimed, but does not teach end caps. However, Trago disclose a similar motor including end caps 25 and 26. It would have been obvious to include end caps, as taught by Trago, to protect the stator.

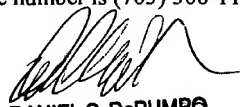
6. Claims 7, 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Kliman, APA and Nishiyama et al. as applied to claims 1-5, 8-13, 16-19 and 22 above, and further in view of Mitsui.

As set forth above, the combination teaches substantially all that is claimed, but does not teach the use of deformations to hold the stator plates together. However, Mitsui discloses a similar motor including deformations 17 (i.e. fig. 6). It would have been obvious to include such deformations, as taught by Mitsui, to define interlocking means between successive laminations (col. 3, line 20) of stator plates. To form the deformations by using slits would have been an obvious design expedient.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chen et al., Wilson-Jones et al., Miller '880 and Henry each disclose the use of various motor types, including switched reluctance motors, in power steering systems. Miller et al. '828 discloses the common use of a variable reluctance motor in a steering system.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel G. DePumpo whose telephone number is (703) 308-1113.

dgd
June 12, 2002



DANIEL G. DePUMPO
PRIMARY EXAMINER